

WHAT IS CLAIMED IS:

1. A starting device for eliminating a peak current introduced when an inductive circuit is actuated, comprising:

5 a signal generator electrically connected to said inductive circuit and generating a first signal corresponding to a signal output by said inductive circuit;

a comparative circuit electrically connected to said signal generator for converting said first signal to a second signal to be compared with a reference signal to generate a control signal; and

10 a controlling device electrically connected with said inductive circuit and said comparative circuit for receiving said control signal and gradually increasing a current flowing through said inductive circuit corresponding to said control signal, thereby eliminating said peak current introduced when said inductive circuit is actuated.

15 2. The starting device according to claim 1 wherein said inductive circuit is one of a motor and a direct-current (DC) motor.

3. The starting device according to claim 2 wherein said signal generator is a frequency generator.

20 4. The starting device according to claim 3 wherein said first signal is a periodic square-wave signal.

5. The starting device according to claim 4 wherein said periodic square-wave signal has a frequency proportional to a rotation speed of said motor.

25 6. The starting device according to claim 4 wherein said comparative circuit includes:

a signal converter electrically connected to said signal generator for converting said first signal to said second signal; and

a comparator electrically connected to said signal converter and said controlling device for comparing said second signal with said reference signal to output said control signal.

7. The starting device according to claim 6 wherein said signal  
5 converter is a triangular wave generating circuit for converting said square-wave signal to one of a triangular wave signal and a sawtooth wave signal.

8. The starting device according to claim 6 further comprising a charging circuit electrically connected between said comparator and a  
10 voltage source for supplying said inductive circuit with a required voltage, and providing said reference signal.

9. The starting device according to claim 8 wherein said charging circuit is a resistance-capacitance circuit.

10. The starting device according to claim 2 wherein said control signal  
15 is a pulse width modulation (PWM) signal for controlling a rotation speed of said motor.

11. The starting device according to claim 10 wherein said controlling device is an electronic switch for gradually increasing said current flowing through said inductive circuit corresponding to said PWM  
20 signal.

12. The starting device according to claim 11 wherein said electronic switch is a transistor.

13. The starting device according to claim 1 further comprising a driving circuit electrically connected between said inductive circuit and  
25 said signal generator for driving said inductive circuit.

14. A starting method for eliminating a peak current introduced when an inductive circuit is actuated, comprising the steps of:

(a) providing a first signal corresponding to a signal output by said inductive circuit;

(b) converting said first signal to a second signal to be compared with a reference signal for generating a control signal; and

5 (c) gradually increasing a current flowing through said inductive circuit corresponding to said control signal, thereby eliminating said peak current introduced when said inductive circuit is actuated.

15. The starting method according to claim 14 wherein said inductive circuit is one of a motor and a direct-current (DC) motor.

10 16. The starting method according to claim 15 wherein said first signal is a periodic square-wave signal.

17. The starting method according to claim 16 wherein said periodic square-wave signal has a frequency proportional to a rotation speed of said motor.

15 18. The starting method according to claim 16 wherein said step (b) is performed by a triangular wave generating circuit to convert said square-wave signal to one of a triangular wave signal and a sawtooth wave signal.

19. The starting method according to claim 15 wherein said control  
20 signal is a pulse width modulation (PWM) signal for controlling a rotation speed of said motor.

20. The starting method according to claim 19 further comprising a step of repeating said steps (a) to (c) to gradually increase said rotation speed of said motor until said motor is rotated at a full speed.